

Commissioner for Patents
United States Patent Application No. 10/802,326

Amendments to the Claims:

This listing of the claims replaces all prior versions, and listings, of the claims in this application.

LISTING OF CLAIMS

1. (Currently amended) A hybrid wellhead system, comprising:

a plurality of tubular heads connected to form the hybrid wellhead system using threaded unions, each tubular head supporting a tubing mandrel for suspending a respective tubular string in the a well, each tubing mandrel extending above a top of the tubular head that supports it, ~~the tubular heads being connected to the hybrid wellhead system by threaded unions; and~~

a tubing head spool mounted to a top one of the tubular heads of the wellhead system, the tubing head spool having a bottom annulus which includes an outer shoulder that is engaged by a threaded union for connecting the tubing head spool to the top one of the tubular heads, the tubing head spool supporting a tubing mandrel that is locked in place by a plurality of lock pins and the tubing head spool further having a flanged top end with an annular groove for receiving a standard metal ring gasket for connection of a flow-control stack.
2. Cancelled.
3. (Currently amended) A hybrid wellhead system as claimed in claim 2-1 wherein the first tubular head is a wellhead, and the second tubular head is an intermediate head spool.

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4. (Original) A hybrid wellhead system as claimed in claim 3 wherein the first and second threaded unions are hammer unions.
- 5-6. Cancelled.
7. (Currently Amended) A hybrid wellhead system as claimed in claim 3 wherein:
the wellhead is threadedly connected to a surface casing and supports an intermediate casing mandrel, the intermediate casing mandrel suspending an intermediate casing in ~~the~~ a well;
the intermediate head spool supports a production casing mandrel, the production casing mandrel suspending a production casing in the well; and
the tubing head spool supports a tubing hanger, the tubing hanger suspending a production tubing in the well.
8. (Original) A hybrid wellhead system as claimed in claim 7 wherein the intermediate casing mandrel comprises a conical bottom end received in a casing bowl of the wellhead.
9. (Original) A hybrid wellhead system as claimed in claim 8 wherein a shoulder of the intermediate head spool locks down the intermediate casing mandrel.
- 10.-14. Cancelled.
15. (Original) A hybrid wellhead system as claimed in claim 8 wherein the intermediate casing mandrel further comprises a frusta-conical bottom end having a plurality of outward-facing annular grooves for receiving O-rings for forming a fluid-tight seal with the casing bowl of the wellhead.

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16. (Original) A hybrid wellhead system as claimed in claim 15 further comprising an annular seal plate having a plurality of annular grooves therein for receiving O-rings, the seal plate being received between the intermediate casing mandrel and the wellhead.
17. (Original) A hybrid wellhead system as claimed in claim 16 further comprising a packing nut threadedly connected to the wellhead for locking down the seal plate.
18. (Original) A hybrid wellhead system as claimed in claim 1 wherein the tubing head spool is rated for a working pressure of 10,000-15,000 PSI.
19. (Currently Amended) A hybrid wellhead system as claimed in claim ~~1~~3 wherein the intermediate head spool is rated for a working pressure of 10,000 PSI.
20. (Original) A hybrid wellhead system as claimed in claim 1 wherein the tubing head spool is rated for a working pressure of 3000-5000 PSI.
21. (Original) A hybrid wellhead system as claimed in claim 1 wherein the flow-control stack comprises at least one of a flow tee, choke, master valve and production valve.
22. (Currently amended) A method of installing a wellhead for stimulating a well for the extraction of hydrocarbons therefrom, where fluid pressure may exceed a working pressure rating of an independent screwed wellhead to be installed on the well, the method comprising the steps of:

 securing successive tubular heads to the wellhead using a-threaded unions, each of the successive tubular heads having a higher working pressure rating than a tubular head to which a bottom end of each successive tubular head is secured; and

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securing a flow-control stack to a tubing head spool of the wellhead using a
flanged connection provided at a top of the tubing head spool.

23. Cancelled.

24. (Currently amended) A method as claimed in claim 22 ~~wherein further comprising~~
threadedly securing an intermediate head spool is threadedly secured to a the
independent screwed wellhead.

25. Cancelled.

26. (Currently Amended) A method as claimed in claim 22 wherein the step of
securing ~~each~~ successive tubular ~~head~~ heads comprises securing each tubular head
using a hammer union.

27. (Original) A method as claimed in claim 22 further comprising steps of landing
slips onto a casing bowl of the wellhead; landing an annular seal plate over the
slips; and locking down the seal plate using a packing nut.

28. (Currently Amended) A method as claimed in claim 27 further comprising a step of
landing a drop sleeve between the casing bowl and the intermediate head spool
above the packing nut.

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Please add new claims 29-38 as follows:

29. (New) The hybrid wellhead system as claimed in claim 7 wherein the intermediate casing mandrel comprises a frusta-conical bottom end that has a large contact surface with the wellhead for supporting a long intermediate casing string required in a deep well.
30. (New) The hybrid wellhead system as claimed in claim 29 wherein the frusta-conical bottom end comprises annular grooves in which O-rings are seated to provide a fluid-tight seal between the intermediate casing mandrel and the wellhead.
31. (New) The hybrid wellhead system as claimed in claim 30 wherein the intermediate casing mandrel further comprises a top end that serves as a spacer between the intermediate head spool and the intermediate casing.
32. (New) The hybrid wellhead system as claimed in claim 31 further comprising a seal plate in which O-rings are seated to provide a fluid-tight seal between the intermediate casing mandrel and the wellhead and a packing nut for securing the seal plate against the intermediate casing mandrel.
33. (New) The hybrid wellhead system as claimed in claim 31 further comprising plastic injection seals for providing a fluid-tight seal with the top end of the intermediate casing mandrel.
34. (New) The hybrid wellhead system as claimed in claim 31 wherein the intermediate head spool abuts the top end of the intermediate casing mandrel.

35. (New) A hybrid wellhead system for a well, comprising:
- an intermediate head spool secured to a wellhead by a threaded union;
 - an intermediate casing string secured and suspended in the well by slips which are seated in a casing bowl of the wellhead;
 - an annular seal plate that provides a seal between the intermediate casing string and the wellhead;
 - a packing nut that secures the seal plate and the slips to the wellhead; and
 - a drop sleeve that acts as a spacer and a seal between the intermediate head spool and the intermediate casing string above the packing nut.
36. (New) The hybrid wellhead system as claimed in claim 35 further comprising a drilling flange secured to the intermediate head spool using a threaded union having a box thread that engages an upper pin thread on the intermediate head spool.
37. (New) The hybrid wellhead system as claimed in claim 36 further comprising a metal ring gasket seated in aligned annular grooves in a top of the intermediate head spool and a bottom of the drilling flange for providing a fluid-tight seal between the drilling flange and the intermediate head spool.
38. (New) The hybrid wellhead system as claimed in claim 37 further comprising O-rings for providing a second fluid-tight seal between the drilling flange and the intermediate head spool.